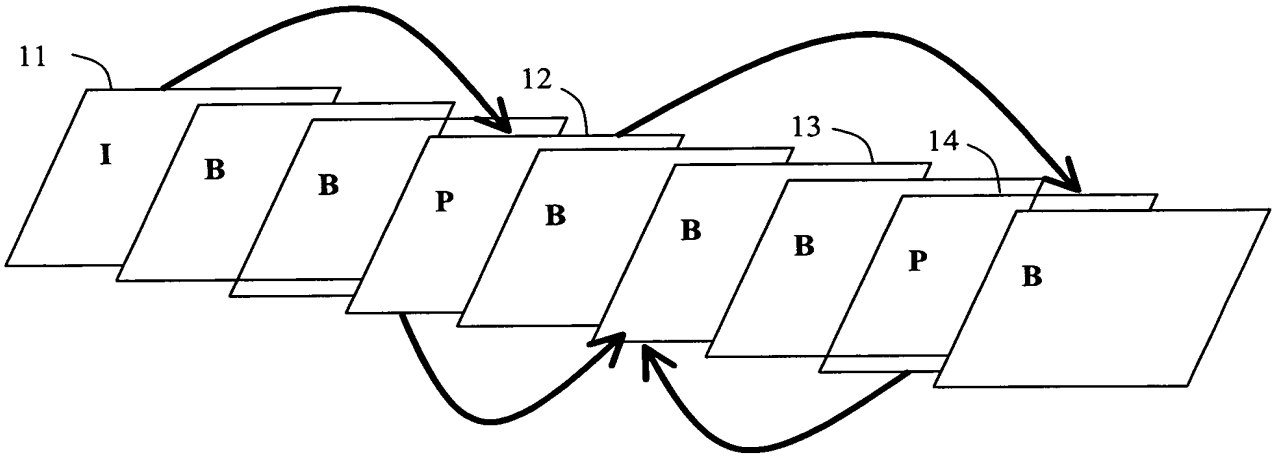


Fig. 1 MPEG picture frame coding types

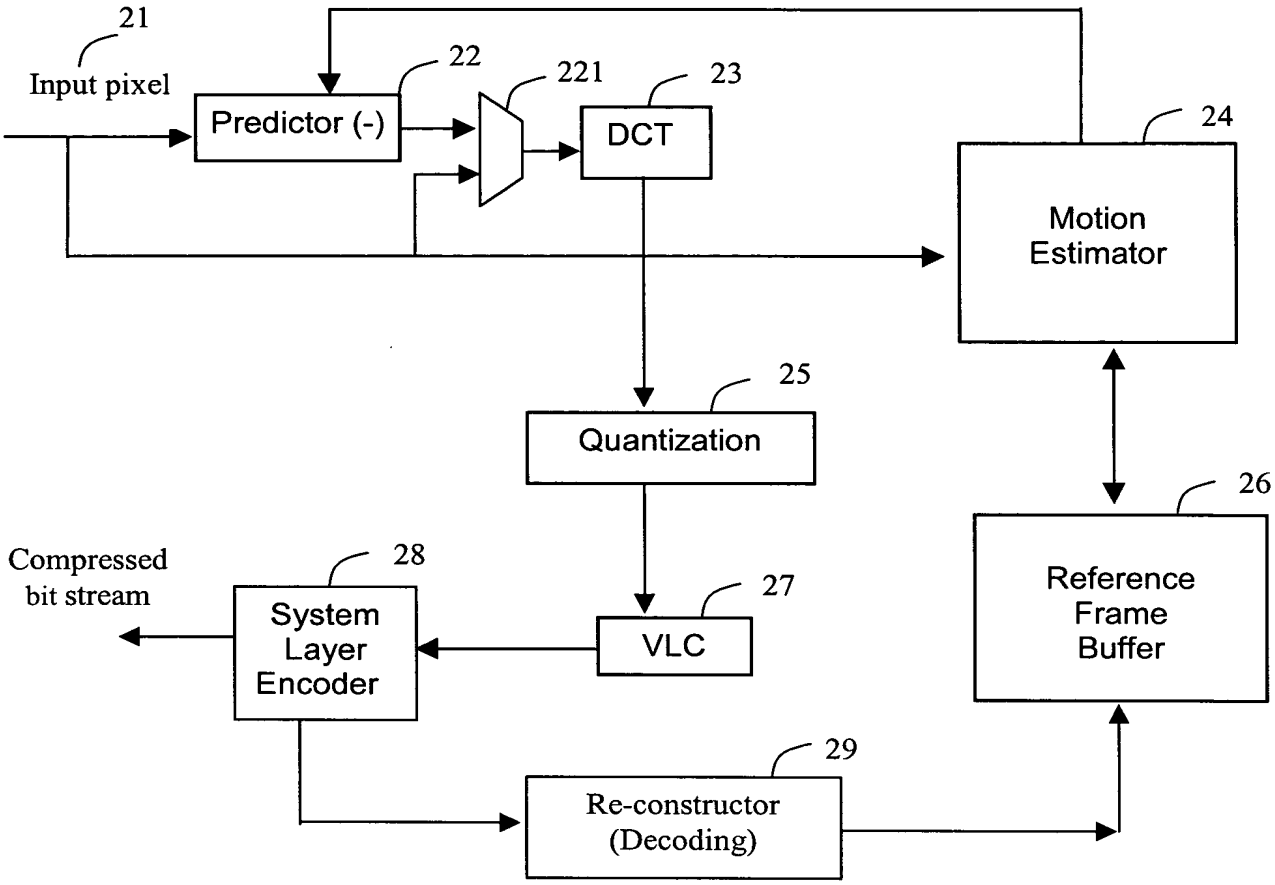


Fig. 2 Block diagram of the video compression

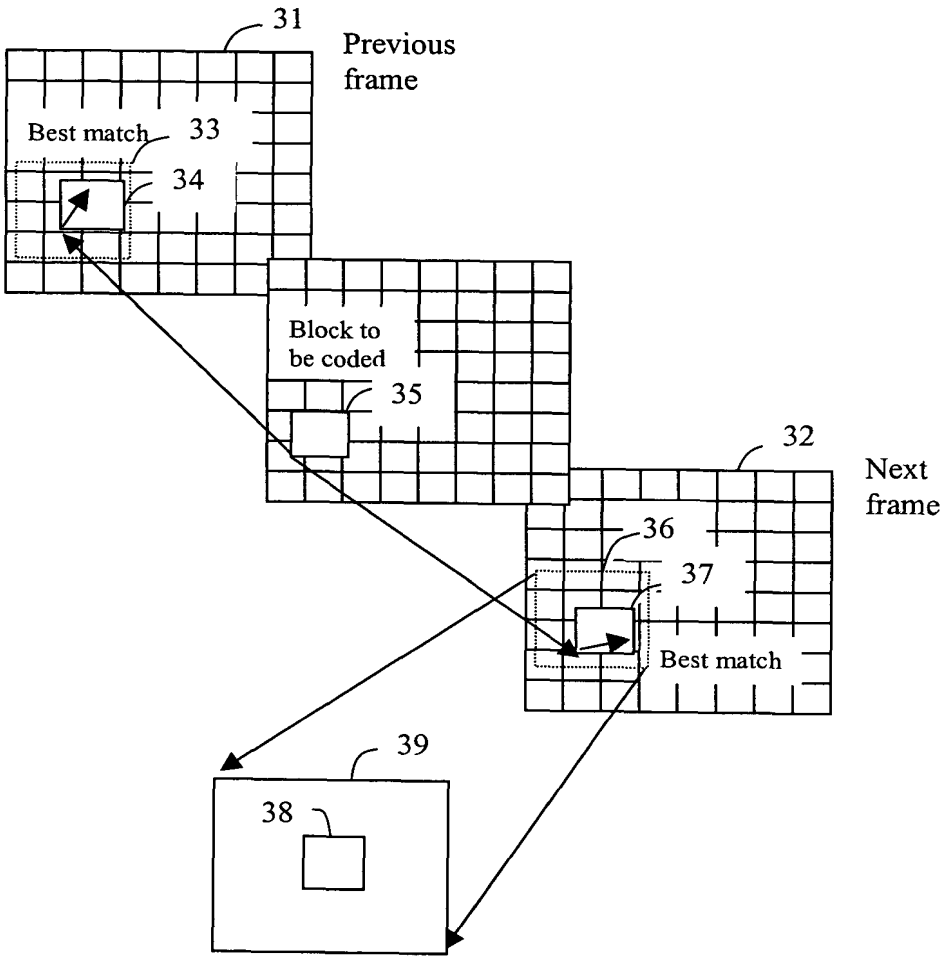


Fig. 3 Best match block searching

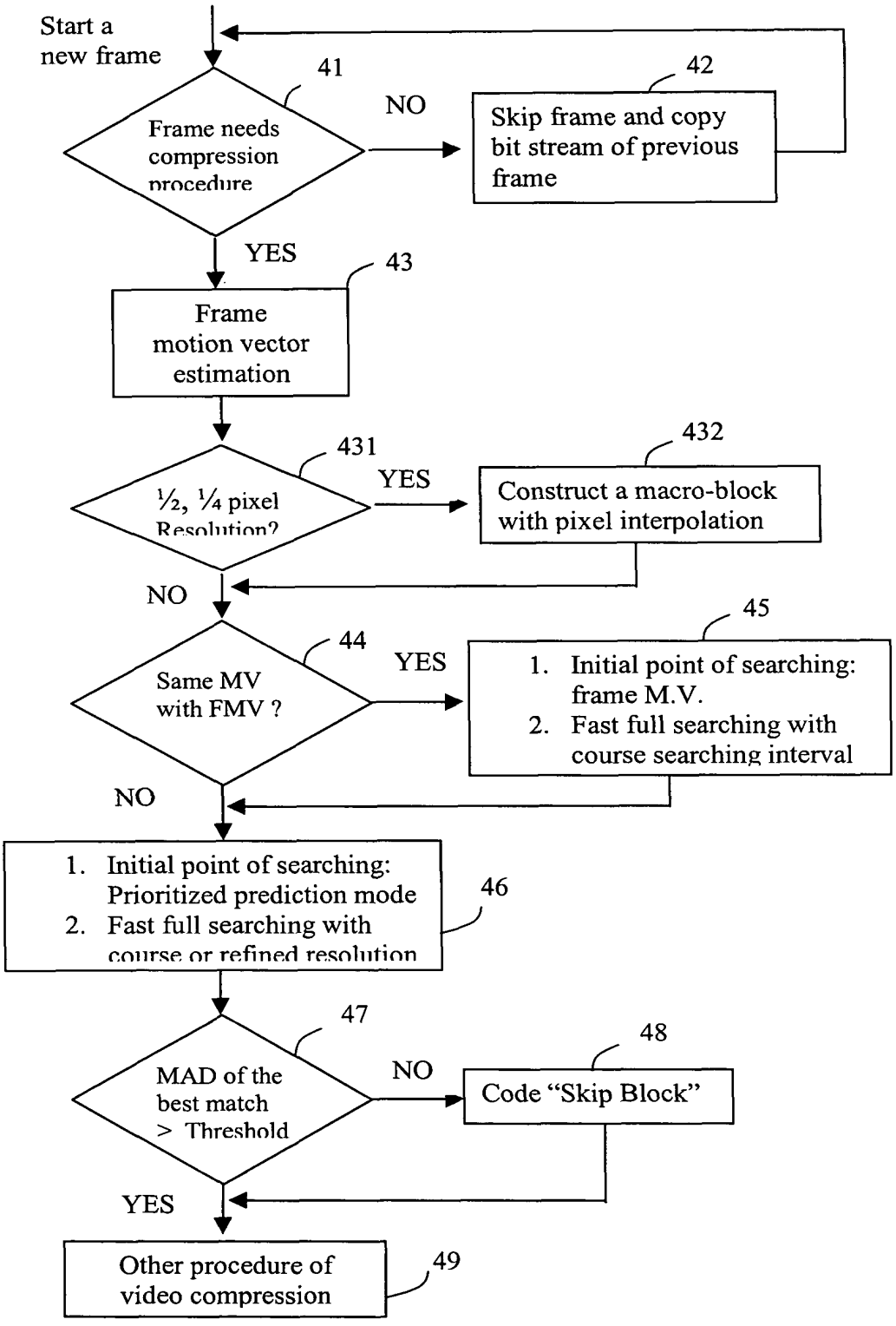
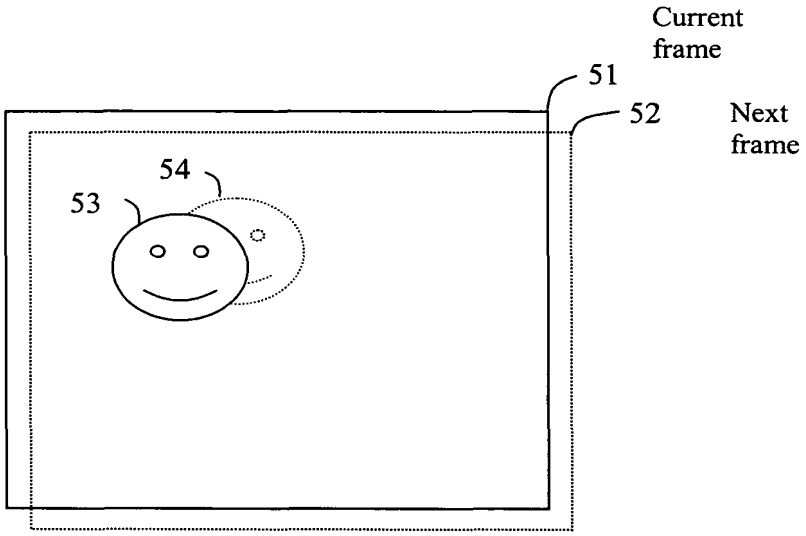
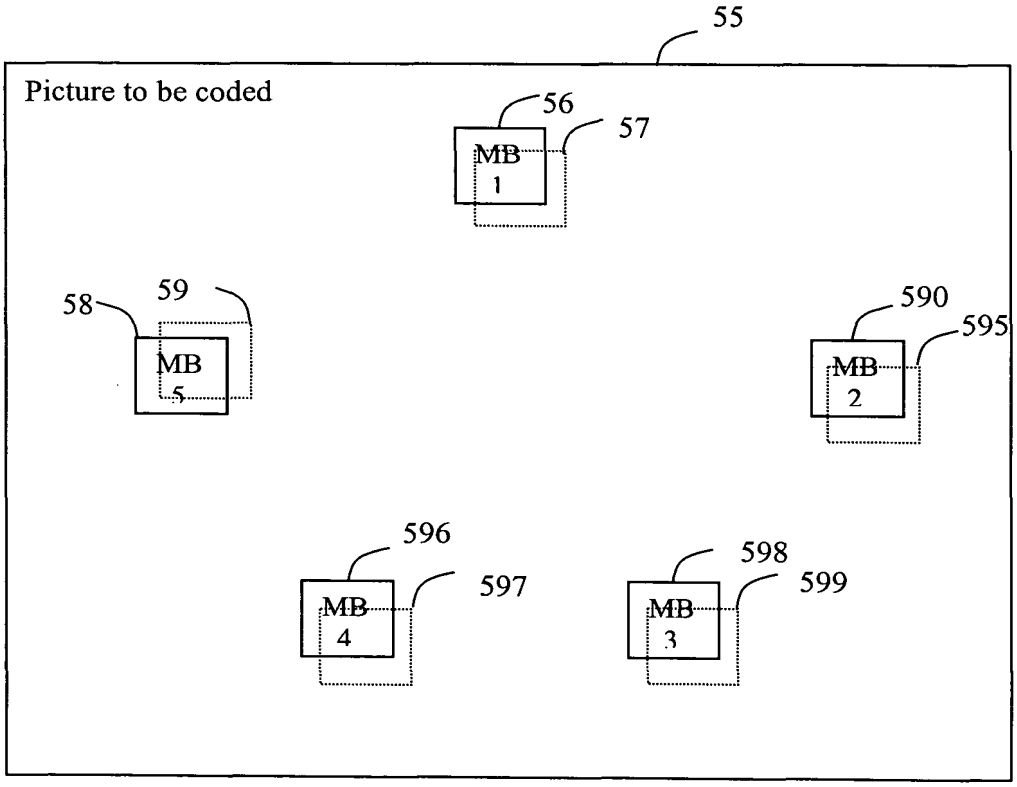


Fig. 4 The efficient video compression procedure



5A. Example of frame movement



5B. Majority MV determines the FMV

Fig. 5 Frame movement estimation

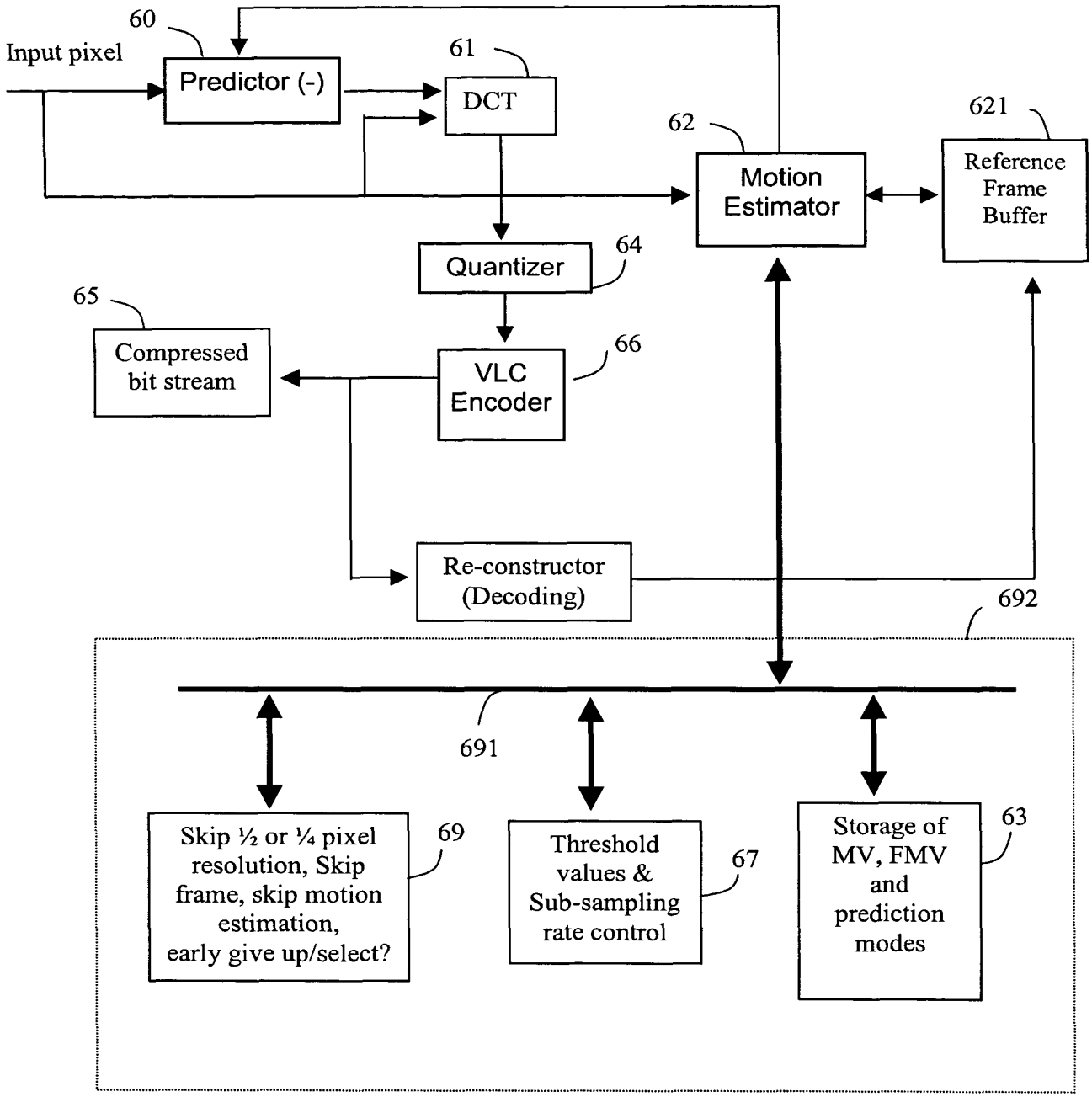
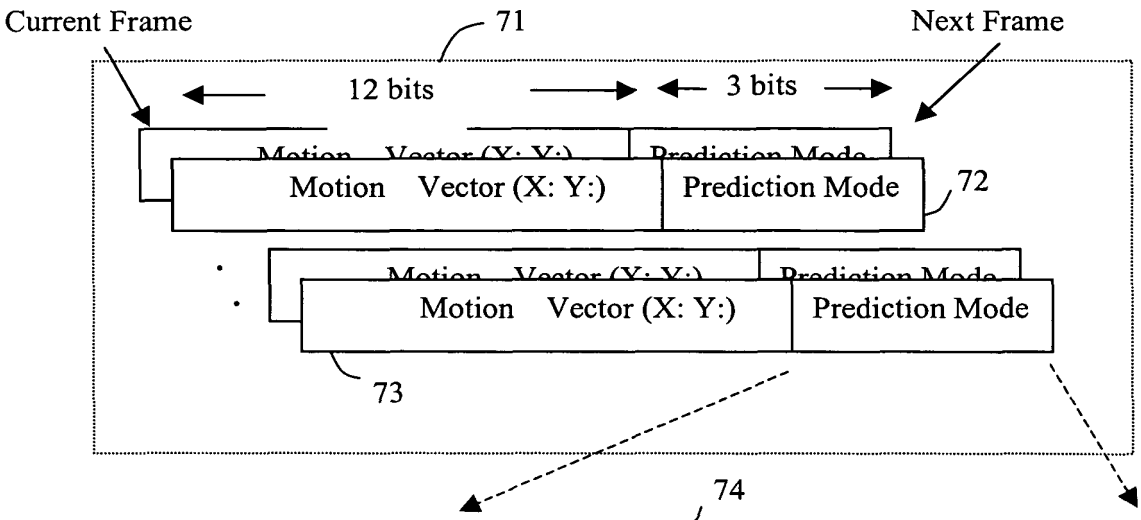


Fig.6 Block diagram of the efficient video compression



74

Prediction Mode	Description
0000	Skip block (M.V.=(0,0), no DCT data)
0001	MV = FMV: No need of searching
0010	Initial point of searching: Frame Motion Vector
0011	Initial point of searching: Same position of previous frame
0100	Initial point of searching: Same M.V. of left block
0101	Initial point of searching: Same M.V. of upper block
01100	Initial point of searching: Same M.V. of left block of previous frame
0111	Initial point of searching: Same M.V. of upper block of previous frame
1000	Initial point of searching (Predictive mode 1): Average of neighboring blocks
1001	Initial point of searching (Predictive mode 2): Multiple points MAD comparing
Others	Reserved

Fig. 7 Format of the motion vector and next frame's prediction mode

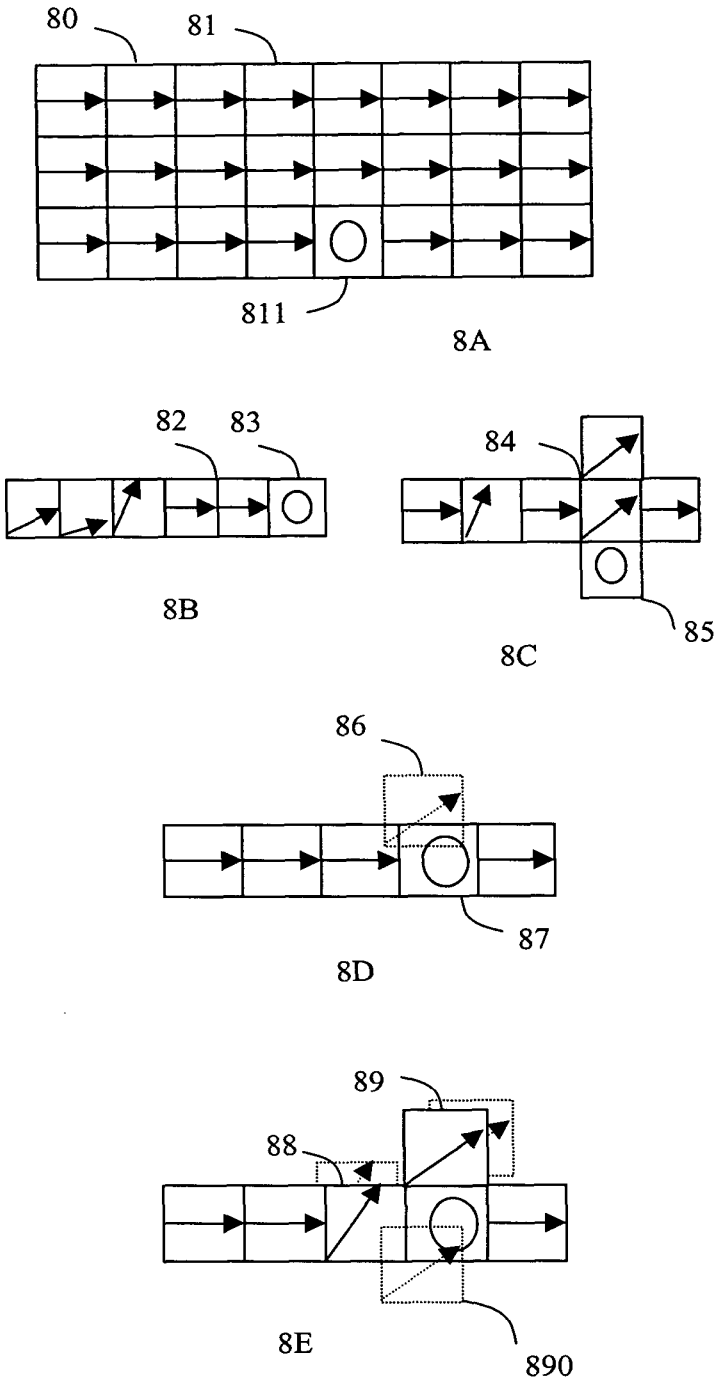


Fig. 8 Motion estimation prediction modes

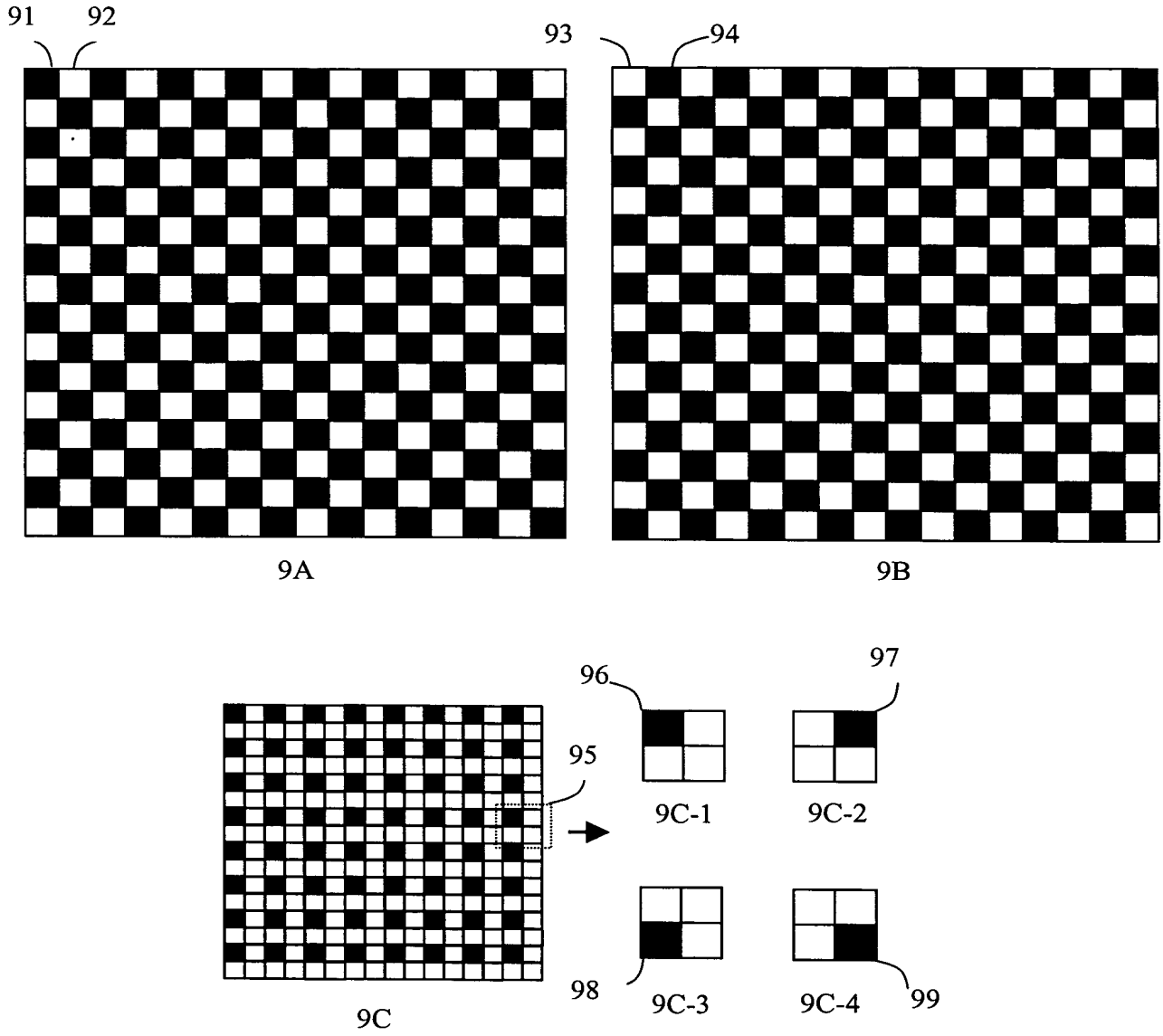


Fig. 9 Sub-sampling with rotating sampling position, 2:1 and 4:1 as examples